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| **CLASS 11** | **APPLIED MATHEMATICS 241** |  |
| **QUESTION BANK** | **CHAPTER::SETS** |  |

1 MARK QUESTIONS

1. If A, B and C are any three sets, then A – (B ∪ C) is equal to

2. (A’)’ = ?

3. A – B is read as?

4. If A, B and C are any three sets, then A × (B ∪ C) is equal to

5. IF A = [5, 6, 7] and B = [7, 8, 9] then A ∪ B is equal to

6. IF R = {(2, 1),(4, 3),(4, 5)}, then range of the function is?

7. The members of the set S = {x | x is the square of an integer and x < 100} .

8. Empty set is a?  
(a) Finite Set  
(b) Invalid Set  
(c) None of the above  
(d) Infinite Set

9. If A = [5, 6, 7] and B = [7, 8, 9] then A U B is equal to  
(a) [5, 6, 7, 8, 9]  
(b) [5, 6, 7]  
(c) [7, 8, 9]  
(d) None of these

10. Which of the following two sets are equal?  
(a) A = {1, 2} and B = {1}  
(b) A = {1, 2} and B = {1, 2, 3}  
(c) A = {1, 2, 3} and B = {2, 1, 3}  
(d) A = {1, 2, 4} and B = {1, 2, 3}

11. n a class of 50 students, 10 did not opt for math, 15 did not opt for science and 2 did not opt for either. How many students of the class opted for both math and science

2 MARKS QUESTIONS

11. Write the set *A*={*x*:*x* is an integer,−1≤*x*≤4} in roster form.

12. . Write the set B={3,9,27,81}B={3,9,27,81} in set-builder form.

13. If A={1,3,5}A={1,3,5} how many elements has P(A)?

14. If  A={2,3,4,5},B={3,5,6,7}A={2,3,4,5},B={3,5,6,7}. Find A⋃B

15. If A={1,2,3,6},B={1,2,4,8}A={1,2,3,6},B={1,2,4,8} find B−A

16. Write down all the subsets of the set {1,2,3}

17. Draw Venn diagram for (A⋂B)′

18. Write the following intervals in set builder form: (−3,0) and [6,12].

19. Describe the set in Roster form.

{x:x is a two digit number such that the sum of its digits is 8 }{x:x is a two digit number such that the sum of its digits is 8 }

20. Are the following pair of sets equal? Give reasons.

A={x:x is a letter in the word FOLLOW }A={x:x is a letter in the word FOLLOW }

B={x:x is a letter in the word WOLF }B={x:x is a letter in the word WOLF }

3 MARKS QUESTIONS

21. In a group of 800800 people, 500500 can speak Hindi and 320320 can speak English. Find How many can speak both Hindi and English?

22. Let U={1,2,3,4,5,6},A={2,3},B={3,4,5}U={1,2,3,4,5,6},A={2,3},B={3,4,5}. Find A′⋂B′,A⋃BA′⋂B′,A⋃Band hence show that A⋃B=A′⋂B′A⋃B=A′⋂B′.

23. For any two sets A and B prove by using properties of sets that:

(A⋂B)⋃(A−B)=A

24. If A and B are two sets and UU is the universal set such that

n(U)=1000,n(A)=300,n(B)=300,n(A⋂B)=200n(U)=1000,n(A)=300,n(B)=300,n(A⋂B)=200 ,find n(A′⋂B′)n(A′⋂B′).

25. In a class of 2525 students, 1212 have taken mathematics, 88 have taken mathematics but not biology. Find the no. of students who have taken both mathematics and biology and the no. of those who have taken biology but not mathematics each student has taken either mathematics or biology or both.

4 MARKS QUESTIONS

26. In a survey it was found that 2121 people liked product A, 2626 liked product B and 2929 liked product C. If 1414 people liked products A and B, 1212 people like C and A, 1515 people like B and C and 88 liked all the three products. Find now many liked productC only.

27. **If X= {1, 2, 3}, if n represents any member of X, write the following sets containing all numbers represented by**

**28. A, B and C are subsets of Universal Set If A = {2, 4, 6, 8, 12, 20}, B= {3,6,9,12,15}, C= {5,10,15,20} and U is the set of all whole numbers, draw a Venn diagram showing the relation of U, A, B and C.**

**29.  In a survey of 200 students of a school, it was found that 120 study Mathematics, 90 study Physics and 70 study Chemistry, 40 study Mathematics and Physics, 30 study Physics and Chemistry, 50 study Chemistry and Mathematics and 20 none of these subjects. Find the number of students who study all the three subjects.**

**30. Given L, = {1,2, 3,4},M= {3,4, 5, 6} and N= {1,3,5}**  
**Verify that L-(M⋃N) = (L-M)⋂(L-N)**